

To: Oberley, Gregory[Oberley.Gregory@epa.gov]
From: Lensink, Andy
Sent: Wed 2/13/2013 10:38:16 PM
Subject: Fw: call to discuss Pavillion water and impacted area
[Pavillion.pdf](#)
[5600039.pdf](#)

----- Forwarded by Andy Lensink/R8/USEPA/US on 02/13/2013 03:38 PM -----

From: Gregory Oberley/R8/USEPA/US
To: Andy Lensink/R8/USEPA/US@EPA, Thomas Sitz/R8/USEPA/US@EPA
Date: 02/27/2012 03:53 PM
Subject: Fw: call to discuss Pavillion water and impacted area

Gregory Oberley
Aquifer Protection Team
US EPA Region VIII (EP-EPR)
1595 Wynkoop Street
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303-312-7043

----- Forwarded by Gregory Oberley/R8/USEPA/US on 02/27/2012 03:53 PM -----

From: Gregory Oberley/R8/USEPA/US
To: "Town of Pavillion" <gh_mayor@wyoming.com>
Cc: Schmit.Ayn@epa.gov
Date: 01/19/2012 04:02 PM
Subject: Re: call to discuss Pavillion water and impacted area

Hi Mr Hamlin, here is supporting information regarding the discussion we had on the phone last week.

- The area EPA is concerned about is primarily in the vicinity of the Pavillion gas field located to the east-northeast of the town of Pavillion and the public water supply wells which supplies the town of Pavillion's drinking water. EPA does not consider the Pavillion public water supply wells to be at risk from impacts discovered in the Pavillion gas field for the following reasons which are related to the geology and hydrology of the area.
1. Shallow groundwater flow direction from the Pavillion gas field is not in the direction of the Pavillion public water supply wells. The direction of shallow groundwater flow would follow the land surface, toward points of discharge for shallow groundwater. (USGS Water Supply Paper 1375 Titled - Ground-Water Resources of Riverton Irrigation Project Area, Wyoming) In the Pavillion gas field north of Indian Ridge, shallow groundwater that has been impacted would flow towards Five Mile Creek. This would not be in the direction of the Pavillion public water supply well field. In addition, any impacted shallow groundwater to the south of Indian Ridge would

move in the direction of Ocean Lake. This is also not in the direction of the Pavillion public water supply well field.

1. Deeper groundwater flow would be generally toward the center of the Wind River geologic basin to the east of the Pavillion gas field. A USGS Hydrologic Investigation Atlas Whitcomb and Lowry 1968 (Sheet 2) depicts the flow in an easterly direction. Also the draft Bighorn/Wind River Basin report (page 7-11) states, "Excluding the southeastern WRB, regional groundwater flow in the Wind River aquifer is toward the Wind River and Boysen Reservoir." (Richter, 1981; James Gores and Associates, 1998b - I do not have the Gore reference). All of the references conclude that impacted deep groundwater in the area of the Pavillion gas field would also be moving east toward the center of the basin and not toward the Pavillion public water supply wells.
 1. The Source Water Assessment and Protection Program (SWAP) document prepared for Pavillion (June 30, 2004) by Lidstone and Associates, Inc. performed some initial time of travel modeling for the Pavillion water wells using EPA's Wellhead Analytic Element Model (WhAEM). As you are aware of the SWAP report states, "the overall point source contaminant susceptibility rating is low due to the lack of contamination sources within the delineated zones." If you review the map you can see that the GW Zone 3 (equivalent to the 5 year TOT) is very small and does not extend into the Pavillion gas field. This SWAP report is still valid for the modeling that has been done for your wells. I am attaching a copy of that report and the map.
- In addition, the Town of Pavillion is also responsible for regular monitoring of the finished water it supplies to its customers. This monitoring should detect changes in water quality and any increase in levels of any organic compounds would raise concerns for operation of the public water supply system.
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 - You may also want to include additional statements about your monitoring program and any other operational safeguards that would be relevant to answering this question. I also suggest that you check out the draft Bighorn/Wind River Basin report as they reference all the documents that I have mentioned above and many additional reports. Here is the link: http://waterplan.state.wy.us/plan/bighorn/2010/finalrept/gw_toc.html

These attachments are the SWAP report info.

Please give me a call as I would like to discuss some of the references that I have cited and determine if you need copies of any of them to assist with answering questions.

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